PROCUREMENT SPECIFICATIONS
MOBILE TANDEM QUADRUPOLE MASS SPECTROMETER LABORATORY

1.0 Scope

1.1 Rear engine, transit type bus chassis utilized as a self-contained mobile Triple Quadrupole Mass Spectrometer Laboratory which shall support laboratory equipment to assist the U.S. EPA in performing its missions.

1.2 Bus shall have provisions for technical equipment to be installed by the EPA. Equipment dimensions shall be per attached. All workmanship shall conform to all appropriate National Construction Codes.

1.3 Three references of similar delivered vehicles shall be furnished along with references.

1.4 Shall operate in extreme temperature conditions (125 degrees F. to -20 degrees F).

1.5 Maximum approach, break over and departure angles required (angles furnished with bid).

1.7 Weight Distribution: Vehicle shall have 2/3 of weight on rear axle.

1.8 Shall submit with the offer, detailed drawings with floor plan dimensions, vehicle pictorials, and manufacturer's data sheets.

2.0 Basic Specifications

2.1	Headroom, minimum	88 in. (finished)
2.2	Exterior width, maximum	96 in.
2.3	Interior width, minimum	87 in.
2.4	Height including roof mounted air conditioners	140.5 in.
2.5	Overall length	35 ft. 6 in.
2.6	Wheelbase	217 in. (minimum)
2.7	Ground clearance, minimum (at rear axle differential)	Max. height possible, min. 8.75 in.
2.8	G.V.W.R.	36,200 lbs. (minimum)

3.0 Mobile Laboratory Specifications

3.1 Construction

3.1.1 Chassis type - rear engine, transit type - in accordance with standard Blue Bird construction or equal. Offering for (chassis type):

Manufacturer's name: _____

Brand and/or model: _____

Frame - Minimum channel of 9-5/8 in. High and 3 in. Flanges made of 0.25 in thick, 50,000 PSI steel section modules = 10.1 cu. in.. Provide stamped cross members and 34 in. Frame width. Tow hooks, front and rear, shall be provided.

3.1.2 Body mounts - To reduce stress on body and frame, full flotation automotive style, rubber body mounts shall be furnished with a minimum 10 per side and the body mounts shall be on gussetted outriggers bolted to the sides of the

chassis frame. Per Blue Bird or equivalent manufacturer specifications. Explanation: Install rubber pads between body and chassis at all possible contact points between body and chassis. These points include body bar angles, auxiliary crossmembers, wheelhousing floor "Z" members, front floor reinforcements conventional only & outriggers conventional only. Install rubber pads to conventional outriggers and all rear floor shear bolt holes using plastic ties. The mounting pad is a rubber spacer 1/4" thick held in place with plastic plug (Christmas tree) then bolted with steel body clips.

3.1.3 Fuel tank - Maximum size available, 100 gallon, minimum, fuel tank located between chassis frame rails. Provide sump and brass drain plug. Provide locking fuel access door.

3.1.4 Heater and defroster cab - Minimum 90,000 BTU heater and defroster. Provide full length pressurized defroster channel.

3.1.5 Leveling device - Equalizer Systems or equal leveling jacks to level vehicle. Four (4) spring loaded hydraulic leveling stabilization jacks with 10,000 lb capability each and mounted to chassis frame at each corner with system valve controls, hydraulic pump and reservoir located in the dedicated body skirt compartment at the front curbside of the vehicle. Offering for (leveling device type):

Manufacturer's name: _____

Brand and/or model: _____

3.1.6 Power steering - Ross TAS-65 or equal, integral power, 20.4 to 1 ratio, 18 in. Padded wheel. Tilt steering column shall be provided. Offering for (power steering type):

Manufacturer's name: _____

Brand and/or model: _____

3.1.7 Rustproofing - Required per Mil Std. 295

3.2 Suspension

3.2.1 Axle, rear - 4.78 to 1 ratio, widest size available. 23,000 lbs. minimum J 230-S or equal.

3.2.2 Axle, front - 14,600 lbs. minimum w/GAWR 13,200 lbs.

3.2.3 Shocks - Single front and rear heavy duty, direct acting - air suspension rated at 37,000 lbs with control override.

3.2.4 Air ride suspension front and rear - Hendrickson or equal. Offering for (air ride suspension type):

Manufacturer's name: _____

Brand and/or model: _____

3.3 Engine/Transmission

3.3.1 Engine - Electronic Turbodiesel -Cummins ISC 300 or equal. Maximum geared speed - minimum 75 mph at 95 percent of maximum governed engine rpm. A SCAN of performance is required. 1000W engine block heater shall be provided. Offering for (engine type):

Manufacturer's name: _____
Brand and/or model: _____

3.3.2 Alternator - 200 amp, Leece-Neville or equal. Offering for (alternator type):
Manufacturer's name: _____
Brand and/or model: _____

3.3.3 Air cleaner - Donaldson dry type with restriction indicator or equal. Offering for (air cleaner type):
Manufacturer's name: _____
Brand and/or model: _____

3.3.4 Oil filter - Full flow disposable.

3.3.5 Cooling - Heavy duty, min., 38 qt. Capacity. Fan shall be minimum 26 in. diameter with 9 blades, hydraulically-driven, thermostatically-controlled.

3.3.6 Exhaust system - a single 16-gauge aluminized steel with M.D. in-line muffler.

3.3.7 Drive line - Spicer 1550 series or equal.

3.3.8 Transmission - Automatic with electronic control system and integral retarder. Allison B400R electronic automatic transmission or equal. External filter and transmission cooler shall be provided. Offering for (transmission type):
Manufacturer's name: _____
Brand and/or model: _____

3.4 Brakes

3.4.1 Brake system - Bendix Antilock system shall be provided.

3.4.2 Brakes - Dual full with non-asbestos lining, Eaton Extended Service or equal, minimum 16-1/2 in. x 6 in. S-cam drum front and 16- ½ in. x 8 in. S-cam rear. Minimum 24 sq. in. front service brake chambers and 30 sq. in. rear service brake chambers. Dust shields front and rear. Bendix AD9 or equal air dryer. Minimum 13.2 CFM gear driven air compressor. Minimum 30 sq. in. spring brake, parking/emergency. All brake tubing shall be nylon, color-coded. Self-adjusting slack adjustors shall be provided. Offering for (brake type):
Manufacturer's name: _____
Brand and/or model: _____

3.5 Controls

3.5.1 Controls - All of the following shall be provided: foot-operated air throttle; electric high idle; air brake pedal; parking brake valve with warning light; transmission selector; dimmer switch; self-canceling directional signal switch; hazard signal switch; headlamp switch; rheostat-controlled lighting; key-type starter switch and engine stop. Air pressure gauges (front and rear), oil pressure gauge, main drive engine water temperature gauge, generator engine water temperature gauge, amperage gauge, fuel level gauge, and voltage gauge on the instrument panel; Low pressure warning light and buzzer activate with ignition key on. Electronic cruise control.

3.5.2 Controls in the engine compartment - Engine control switch and starter button, engine compartment light switch with 2 lights.

3.6 Electrical

3.6.1 D.C. System

3.6.1.1 Battery - Minimum four (4) Delco 1151 or equivalent - three (3) for chassis and (1) one for generator. Offering for (battery type):
Manufacturer's name: _____
Brand and/or model: _____

3.6.1.2 Horns - Dual electric.

3.6.1.3 Driver's instruments - Speedometer, odometer and high beam indicator, transmission temperature gauge, engine hour meter, tachometer, voltmeter, fuel gauge, oil pressure gauge, and water temperature gauge. Directional signal lights. Parking brake applied light, low coolant warning light. Air pressure gauge, low pressure warning light and buzzer for dual brake system. An engine warning system shall be provided with low oil pressure and high water temperature warning lights and buzzer.

3.6.1.4 Engine compartment instruments - Oil pressure gauge.

3.6.1.5 Strobe lights- Whelen or equivalent - Strobe light (1) installed on front and (1) rear of vehicle. Offering for (strobe light type):
Manufacturer's name: _____
Brand and/or model: _____

3.6.1.6 External mounted flood lights on the sides and rear that incorporate an angled diffuser type bezel to direct light downward 8-32 degrees - Whelen Model 970CAOYU or equal. Two (2) scene lights on curb side, two (2) scene lights on street side, and two (2) scene lights on rear of vehicle. Side mounted lights shall be located maximum spacing front to rear, rear scene lights shall be located high on exterior walls. Lights shall have individual switches and be configured so when reverse gear is selected, all six scene lights are illuminated. Lights and switches shall be in Government approved locations. Lights shall be mounted in accordance with manufacturer specifications, sealed and not leak. Offering for (scene lights type):
Manufacturer's name: _____
Brand and/or model: _____

3.6.2 A.C. System

3.6.2.1 Conduit (ENMT) shall be run behind the walls, interconnecting the left and right side workstations and the driver's area monitor cabinet, with J-boxes at termination points for access. Room for additional wiring and a fishwire shall be furnished. The conduit shall also be run to the rear office space.

3.6.2.2 30-Amp 220 volt single phase twist-lock type AC outlet shall be installed adjacent to the TAGA (Trace Atmospheric Gas Analyzer) compartment. 30-Amp 110 volt single phase twist-lock type AC

outlet shall be installed adjacent to the GC/MS. Outlet type is NEMA-L14-30, 3-pole/4-wire, 125/250V, 30A.

3.6.2.3 Four (4) duplex, 20 amp. GFI, AC weatherproof outlets, two (2) located on the curbside, one (1) on the rear and one (1) on the street side in Government approved locations.

3.6.2.4 Fifteen (15) interior duplex outlets in walls and ceiling in Government approved locations. All outlets shall be flush mounted. Shall be protected with 20-Amp circuit breakers and wiring.

3.6.2.5 One (1) quadra-plex outlet in each storage areas per drawing.

3.6.2.6 Separate circuits (20 amp) and G.F.I. protected outlets for each strip.

3.6.2.7 Four (4) duplex outlets spaced evenly across wall in front of desk with two (2) above and two (2) below desktop. Shall be flush mounted.

3.6.2.8 All outlets mounted at least 16" from the floor except for outlet in the cab area.

3.6.2.9 One (1) 12 outlet power strip at workbench.

3.6.2.10 A spare parts kit should be furnished including: spare light bulbs, fuses, circuit breakers, misc. connectors, fasteners, etc. contained in a small tool box.

3.6.3 Power Distribution Panel/System

3.6.3.1 120/240 Volts, 60 HZ, single phase.

3.6.3.2 Non-conductive Mica face with legends permanently engraved.

3.6.3.3 AC-Main 120/240 V, 100 amp. circuit breaker for each leg.

3.6.3.4 Dedicated digital voltage, current & frequency meter.

3.6.3.5 Power transfer switch to select input power between diesel generator, shore power, and off.

3.6.3.6 Generator start/stop and preheat controls.

3.6.3.7 Each AC protected by a UL listed circuit breaker.

3.6.3.8 The main electrical panel shall be located in a Government approved location. The main electrical panel shall be covered with a door of clear Plexiglass or Lexan. The door shall hinge and include a secured latch.

3.6.3.9 Single phase electrical loads shall be configured to provide the maximum possible balance on the generator.

3.6.3.10 System shall be tagged 120/240V 60 Hz, single phase.

3.6.3.11 All power panel electrical loads should be designed to accommodate future equipment additions.

3.6.3.12 The panel should be arranged vertically with meters and lights at the top, and breakers and switches arranged below.

3.6.3.13 The panel should be painted white, with black silk-screened labels for all meters, breakers, switches, and lights. The power panel

should be hinged along one edge for maintenance access.

3.7 Wheels/Tires

3.7.1 Tires - 11R22.5 steel belted radials shall be provided. Michelin XZ or equal.
Offering for (tire type):
Manufacturer's name: _____
Brand and/or model: _____

3.7.2 Wheels - 22.5 x 8.25 ten stud disc wheels shall be provided.

3.8 Body Specifications Exterior

3.8.1 Access panels - Two hinged doors with easy access latches on right and left front of body below windshield for easy outside access for servicing. Access panel with hinge and latch below driver window for 12-volt wiring and accessories. Access door at center rear for servicing engine. Door shall have dual latches and gas assist cylinders to hold door in open position. Grilled metal door on each side of engine compartment hinged forward for added access on left and right sides. One (1) locking fuel filler door, painted to match the body.

3.8.2 Battery compartment - Stainless steel compartment with slide-out tray. Includes hinged door with latch and key lock. Door hinges must be stainless steel pivots in nylon bearings.

3.8.3 Body construction - 16-gauge die-formed steel gusset, 19-3/8 inch high, shall be attached to the floor and extend the full length of the body on both sides. Sealer shall be used between floor and gusset to keep out fumes, dust, and hot and cold air. Drainage ports shall permit water to escape and evaporate at joint areas. 11-gauge auxiliary triangular gussets shall be double riveted to main floor cross-members and project vertically to give additional support to side skirting. 14-gauge, zinc-coated steel floor panels 28" and 35" width panels formed with 2" lip at each end. 1/8" steel bar, 1-1/2" width , shall be attached to inside of floor panel lip. 3/16" steel angle iron, 1-1/2" x 2", to be attached to inside lip of adjoining panel. All four pieces of metal shall be buck riveted together. Like construction at all floor joints. Reinforcements of 16-gauge steel U-channel shall be welded to floor every nine (9) inches between floor sections. All cross members shall run full width of floor. Auxiliary cross members shall be formed with water drainage ports. Interior floor shall be minimum 5/8" exterior grade plywood screwed securely throughout the coach. All seams and edges shall be sealed.

3.8.4 Bumpers - Chassis frame mounted. Minimum 3/16 in. steel, die-formed, ribbed, one piece. Minimum height shall be 12 in. front and rear.

3.8.5 Doors - One (1) sedan - type 28 in. x 74 in. with slam lock. Door shall be double constructed aluminum with urethane foam insulation in the core. Hinge shall be continuous 3/16 stainless steel piano hinge. Also provide dead bolt, assembly with stainless steel, locking, rotary latch Yale or equal; door closer; door hold-back; and bumpers. Windows shall be tinted and of fixed design. A

second window in the sedan-type door located in lower half shall be provided. Wired for security alarm. All door hardware fully adjustable to maintain a perfect alignment throughout.

3.8.6 Storage compartments - Minimum thickness of 0.125 inch seamless aluminum for walls. Two (2) compartments forward of rear axle on street side of vehicle. Maximum possible dimensions. Pan type construction. Painted to match body color. Key locking (all keyed alike) with positive latches and hold open devices. Fully protected automotive type gaskets on doors and drains. Eberhard "D" rings. The two (2) streetside storage compartments shall be constructed of bright aluminum diamond plate on all sides and bottom surfaces. Filtered air vent in the upper rear corner to allow moisture to escape. Compartment doors shall include automatic DC compartment lights. Compartment lights may be manually turned off with a switch. Door hinges must be of stainless steel continuous construction.

3.8.7 Generator compartment - Shall be in a Government approved location and accessed by a single, top hinged, louvered door assembly. Compartment shall be fully lined using POLYDAMP acoustical barrier and absorber consisting of 1" thick acoustical foam with a metalized polyester facing, a 1-lb./sq. ft. loaded vinyl barrier and a 0.25 in. thick foam rubber decoupling layer with a supported acrylic pressure sensitive adhesive and mechanical fasteners. Stainless steel roll-out carriage shall be furnished. Total louvered area included door with a square inch minimum of 25 percent greater than genset radiator frontal area. Opening shall extend a minium six (6) in. on each side of generator for servicing and removal. On the side abutting to the frame rail, a compartment shall be made to allow the flexible exhaust piping enough space as to not come in contact with the side surface of the compartment or its insulation. A 12 V DC power lead shall be provided to accommodate future auxiliary cooling.

3.8.8 Front section - Front section shall be per standard Blue Bird manufacuturer's practice.

3.8.9 Grab rails - An exterior vertical grab rail at the patron door opening shall be provided. This grab rail shall be a minimum of 36 in. long and be of chromed steel, solidly mounted on backing plates with two bolts and locknuts at top and bottom. A horizontal grab rail mounted on the interior of the patron door mounted below top window. To be of stainless steel, minimum 1.25 in. diameter, solidly mounted. Hand rails at both sides of each stepwell. To be of stainless steel, minimum 1.25 in. diameter, solidly mounted. Must be formed without fittings to prevent catching clothing.

3.8.10 Gussets - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.11 Lights - The headlights are rectangular Halogen type. High and low beams are controlled by steering column turn signal arm. Amber parking lights are located outboard of headlights and are activated by the headlight switch. Intermediate amber marker lights mounted left and right center of coach at roof line on units 30 feet or longer. Lamp cluster of three amber lights are located at front center

on roof. Lamp clusters of three red lights are located at rear center of roof. Red stop and tail lights are located in light cluster on the rear of the vehicle along with the rear directional lights. Backup lights consist of two white lensed lights located inboard of the stop, tail, directional light clusters. A single illuminated license plate holder is provided at the rear center of the unit. Two 3" amber reflectors, located forward of front wheels at floor line level. On units 30 feet or longer, two 3" amber reflectors, midship at floor line level, are installed on each side of the coach. Two 3" red reflectors mounted on rear of body. Two 3" red reflectors are installed at floor line level on the sides of the coach adjacent to the left and right rear corners. All lights and reflectors and housings shall be in accordance with vehicle manufacturer specifications.

3.8.12 Mirrors - Interior 4 in. X 16 in. Clear mirror with padded edges. Exterior self-defrosting Metagel mirrors, 8 in. X 15 in. High mount type with convex rearview. Remote-controlled, self-defrosting mirrors shall be provided on driver and passenger side. All mirrors shall be in accordance with vehicles manufacturer specifications.

3.8.13 Metal treatment - All exterior steel parts shall be primered and painted to prevent rust. The body shall be painted with a single color Sikkens 2 part polyurethane enamel paint to match the chassis cab color. The Sikkens paint finish shall carry a 10-year warranty.

3.8.14 Mud flaps - Minimum 24 in. x minimum 30 in. front and rear anti-sail flaps.

3.8.15 Painting - One solid non-metallic white color in oven-baked acrylic enamel.

3.8.16 Rear section - Rear section shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.17 Roof bows - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.18 Roof panels - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.19 Rub rails - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.20 Seals - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.21 Side panels - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.22 Stringers and headers - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.23 Undercoating and rustproofing - Body floor, skirt and wheelhousing are to be undercoated, with a commercial undercoating, after assembly and before mounting on chassis.

3.8.24 Wheelhousing - Shall be in accordance with standard Blue Bird manufacturer's practice.

3.8.25 Wipers - Dual 2-speed electric. To be wet arm, bottom mounted. Intermittent wiper feature.

3.8.26 Rain visor - Aluminum rain visor molding, full length, each side.

3.8.27 Sunvisor - Driver and passenger 6 inch x 30 inch commercial type adjustable

with tinted plexiglass.

3.8.28 Hardware - All body trim pieces, hinges, hardware, and fasteners not specific to Blue Bird shell, with the exception of the aluminum generator compartment door assembly, shall be stainless steel - any dissimilar metals separated to prevent galvanic action.

3.8.29 I/O Panel - I/O panel shall consist of an RJ-11 and RJ-45 receptacles for voice and data land lines respectively. The conduit shall be run throughout the bus so access is in the front laboratory space and the rear office space.

3.9 Body Specifications Interior

3.9.1 Insulation - Commercial application of urethane foam sprayed in place on interior walls and ceiling and under steel floor.

3.9.2 Seats - Bostrum Routemaster Plus S-way air suspension driver seat and passenger seat with right and left side armrests, or equal. Offering for (seat type):

Manufacturer's name: _____

Brand and/or model: _____

3.9.3 Ventilation - Fresh air through heater system. Air intake on right front side below windshield.

3.9.4 Windows - Window in door as specified. Driver and copilot horizontal sliding windows with locks. Two (2) emergency egress windows shall be furnished, one (1) on right side rear conference room and one (1) on left side at TAGA. Three (3) additional fixed windows shall be provided in Government approved locations. All windows to be tinted.

3.9.5 Windshield - Two-piece curved tinted windshield, safety plate. To be minimum of 3368 sq. in.

3.9.6 Wiring-Basic body wiring to be number and color coded. Wiring diagram is to be provided. Protection to be provided by automatic resetting circuit breakers. Copper THHN, with stranded conductors and routed through EMT-U.L. listed electrical tubing conduit throughout one size larger than required by National Electrical Code (NEC) with an independent ground wire. All equipment and wiring provided will meet all appropriate EIA, NEMA, and NEC wiring and safety standards. All cables and wires are to be numbered and color coded and referenced to customer approved flow diagrams. All wiring will be secured at maximum intervals of 18 inches. Wiring and antenna furnished for cellular phone and GPS unit. Any exterior 12-volt wiring connections must use crimp connectors and heat sink tubing. Scotchlok or quick splice connector unacceptable.

3.9.7 Stepwell- A 2-step stepwell with min. of 12 in. depth and max. 9 in. risers shall be furnished. The stepwell shall be lined with scuff-resistant transit rubber flooring material. Each step shall incorporate a heavy duty slip-resistant commercial rubber step tread reinforced with a steel back. The front edge of each tread shall incorporate a white strip. Treads shall be securely fastened and silicone-sealed at the edges. Kwikee Model 3400 or equal power remote-

controlled, fold-away steps with dash-mounted control switch, "step down" indicator light mounted on dash. 12- volt light at each stepwell to illuminate step area. Buzzer and light shall be provided in driver's area to indicated when steps are down. Offering for (power remote step type):

Manufacturer's name: _____

Brand and/or model: _____

3.9.8 Storage - Interior compartment with door and lock above windshield with corkboard and fabric covering. Exterior compartments subject to space availability.

3.9.9 Ceiling - Commercial textured fiberglass interior ceiling panels for ease of maintenance and washability, Marlite or Sequentia FRP board, or equal; P-100 white in color, or equal: must meet ASTME-84 rating. No other substitutions or equals. Thermal stability ranges from -65 degrees F. To +212 degrees F.) Offering for (ceiling type):

Manufacturer's name: _____

Brand and/or model: _____

3.9.10 Floor covering - Vinyl interior installed in one piece with no seams over 5/8 inch exterior grade plywood floor and 14-gauge steel floor pan. Minimum of 5-year wear-date. Plywood floor seams shall be filled and sanded prior to installation of vinyl.

3.9.11 Interior finish - Fabric-covered header panels front and rear and on panels above driver and co-pilot windows. All upholstery shall meet FMVSS302.

3.9.12 Lighting - Two (2) rows of 120VAC double tube fluorescent fixtures, low-profile type Hubbell Mocel WM2-40E, anchored to steel roof bows. Shall include prismatic clear acrylic diffusers for uniform light distribution. Diffuser snaps into place to prevent shifting or accidental opening. Lights shall be SCA NRTL/C certified, suitable for use in damp locations. Switches for main room 120 VAC lighting shall be located on wall just aft of entrance door, one set at floor level (with scene light switches) and one set at standard height off floor. Switch for rear room 120VAC lighting located in rear room near entrance door. 12VDC stepwell lights shall be furnished. Five (5) 12 VDC fluorescent dome lights with individual switches shall be furnished, recessed in ceiling and reinforced at each light location. Four (4) sets of dual 12 VDC direction lights with manual adjustment and individual switches shall be furnished, one set each located over the driver seat, passenger seat, right side work station desk, and left side work station desk. Power panel shall be Paneltronics back-lit type or equivalent.

. 3.9.13 Paneling - 0.5 inch top grade birch plywood high pressure laminate finish.

3.9.14 Rear compartment - A work table will be installed in rear of vehicle with appropriate seating as per drawing.

3.9.15 Rear partition - A partition will be installed in rear of vehicle with a sliding door as per drawing.

3.9.16 Hardware - All hardware, including hand rails, hold backs, and hinges will be stainless steel or equivalent and furnished to provide smooth, efficient

operation. All handrails to be of one-piece construction.

3.9.17 Heat - Six (6) -Forced-air, 240-volt 5120 BTU Marley electric heaters or equals - two with individual thermostats. Four (4) of the six (6) heaters are networked to the climate control system. These units are shall also be equipped with individual thermostats. Offering for (heating system type):

Manufacturer's name: _____

Brand and/or model: _____

3.9.18 Safety Equipment - Two (2) 5 LB. 20 B.C. fire extinguisher. Additional CO_2 fire extinguisher shall be provided. A road hazard safety kit with DOT approved flares and a triangle reflector set shall be provided.

3.9.19 Carpentry - Shelving sections shall be constructed of 3/4 in. uprights and 3/4 in. shelves and shelf backs. Material shall be top-grade, 5-ply birch plywood. The front ends edges of all double uprights to be covered with hardwood molding, glued and nailed in place. All nail holes to be filled and sanded by hand. All cabinetry shall be hand-sanded to ensure a smooth and uniform surface. All wood cabinetry shall be sealed with one (1) coat of Sand-n-Sealer or equal, uniformly applied by spray method. One (1) coat satin clear polyurethane shall be uniformly applied by spray method, then hand-sanded and two (2) additional coats spray-applied. Hardwood molding to be applied to front edge of all shelves. Sections to be anchored to structural members in walls and to each other. Bookcase-type construction increases strength, reduces body stress and noise. Cabinetry shall have birch natural stain finish. Additionally all cabinet, tables, etc, shall be attached to tapping plates in wall (welded to vertical structural wall beams). EURO-style hidden hinges on overlay cabinet doors, and Southco Push-to-Close positive latches with integral locks shall be furnished. Drawers shall have extension roller hardware and positive latches with integral locks. Adjustable shelves shall be provided in the rear wall storage cabinet; all other cabinets shall have fixed shelving. Additional cabinet shall be fabricated for mounting a monitor near the driver. This cabinet is located at the dash to the right of the driver.

3.9.20 Office seats - Two (2) seats will have the heaviest industrial grade cloth available and teal color, contour back, forward/rear adjustments, pedestal shall have no sharp edges.

3.9.21 Microwave oven - 1000W Dometic RV Microwave or equal. Offering for (microwave oven type):

Manufacturer's name: _____

Brand and/or model: _____

3.9.22 Refrigerator - Norcold Model DE441, 120 VAC/12VDC, 3.1 cu. ft. combination refrigerator /freezer or equal. Offering for (refrigerator type):

Manufacturer's name: _____

Brand and/or model: _____

4.0 Special requirements.

4.1 Air conditioning - Four (4) Dometic "Penguin" low profile 18,500 BTU roof-mounted

air conditioner(s) or equal. Automatic, digital comfort center for individual control of up to four (4) heating/cooling zones throughout unit. Air conditioners must come on sequentially. The air conditioning/heating is to maintain all areas of the interior of the laboratory at a temperature of 70 degrees F $\pm$ 2 degrees F. This highly regulated temperature condition is required for the proper operation of the scientific equipment. Offering for (air conditioning type):

Manufacturer's name: _____

Brand and/or model: _____

4.2 Computer system - Dell Precision 153; Workstation 530; Intel 174; Xeon 153; processor, 2.20 GHz; 512K Cache; 17" Flat Screen or equal. This system will be used to display and process input from TAGA, GIS, GPS, meteorological station, and modeling systems and applications. Offering for (computer system type):

Manufacturer's name: _____

Brand and/or model: _____

4.3 Audio/visual - Clock and backup alarm shall be provided. AM/FM/CD/cassette radio JVC Model KW-XC-770 or equal with four (4) speakers AUDIOVOX or equal shall be provided. Rear vision backing camera system Intec monitor CVM 500 and camera CVC 120 or equal shall be provided. Direct TV/Direct PC with 17" high density flat screen monitor capable of operating in a split screen mode and displaying one input over the entire screen or two inputs simultaneously on the split screen, uplink capability of >200K/sec and downlink capability >400K/sec and mounted on a drop down arm from the ceiling in the front of the bus. A 17" high density flat screen monitor capable of operating in a split screen mode and displaying one input over the entire screen or two inputs simultaneously on the split screen for the output of instrumental data from the TAGA, meteorological station, GPS, and GIS, located on the cabinet located at the dash to the right of the driver. Offering for (AM/FM/CD/cassette radio type):

Manufacturer's name: _____

Brand and/or model: _____

Offering for (rear vision backing camera type):

Manufacturer's name: _____

Brand and/or model: _____

4.4 Navigation - GPS Trimble Pro XR/XRS with Asset Surveyor, TSC1 Data Logger, and Pathfinder software or equal shall be provided.
Offering for (GPS type):

Manufacturer's name: _____

Brand and/or model: _____

4.5 Office equipment - Facsimile/scanner/copier Brother MFC 6800 or equal shall be provided. Wiring and antennas for above instruments shall be provided.
Offering for(facsimile/scanner/copier machine type):

Manufacturer's name: _____

Brand and/or model: _____

4.6 Cylinder rack - cylinder rack for carrying compressed gas cylinders inside of the vehicle will be fabricated. Dimensions will be 38"L x 36"H x 30"D with three (3) partitions with 9"W.

4.7 Electrical - 240-volt system sized to exceed vehicle load requirements. 120-volt outlets as required (GFCI only). Circuit breaker panel and wiring to meet National Electric Code. All wiring must be secured at maximum intervals of 18 in. Wiring must be one size larger than required by NEC. An independent ground wire must be installed. Provide magnetic hydraulic breakers. Any exterior 12-volt wiring connections must use crimp connectors and heat shrink tubing. Scotchlok or quick splice connector unacceptable. 60 amp, minimum, "Smart" converter/battery charger which can automatically charge batteries from shore power, auxiliary shore power, or generator power, shall be provided. 220 VAC and 30 amp service for triple quadrupole mass spectrometer. 110 VAC and 30 amp service for GC and purge and trap unit. Power for hood per manufacturer's specifications. GFCI protection input controls shall be provided. Shall be located after transfer switch to protect instruments from shore power and generator power. Offering for (smart converter/battery charger type):

Manufacturer's name: _____

Brand and/or model: _____

4.8 Uninterruptible power supplies - UPS system for the MS/MS system, Best Ferrups FE 4.3 KVA or equal, UPS system for the GC/MS instrument, Liebert CXT or equal, UPS system for the GC/MS concentrator, Cyberpower 900 AVR, or equal, shall be provided. UPS system for computers, four (4) Cyberpower 900 AVR or equal, shall be provided. Offering for (MS/MS UPS type):

Manufacturer's name: _____

Brand and/or model: _____

Offering for (GC/MS UPS type):

Manufacturer's name: _____

Brand and/or model: _____

Offering for (GC/MS concentrator UPS type):

Manufacturer's name: _____

Brand and/or model: _____

Offering for (Computer UPS type):

Manufacturer's name: _____

Brand and/or model: _____

4.9 Shore Power - 240VAC, 100A/per leg shoreline, 25 ft. long, 4 conductor shoreline with Sentrex HA-120T surge suppressor at feed module on spring loaded rewind reel with 240VAC 75A collector ring, Triplite or equal. Rewind reel to be located in compartment with access door, latch and key , and cableway roller guides on all four sides of opening. Transfer switch, integrated in AC load panel, shall be furnished. Shoreline shall include Hubbell 4100P12W. Body/chassis connected with a minimum of three (3) 3/4" braided ground straps with tab ends. Remove paint, rust, etc.. Shall be attached to body and chassis with stainless steel hardware, star washers, and sealed with a mon-hardening battery terminal sealer.

4.10 Generator - Diesel, liquid-cooled, sized to exceed all electrical componentry amperage draw requirements. Must include a critical silencer. Residential silencer unacceptable. Installation must meet specifications as established by generator manufacturer. Include heavy-duty, fixed structural stainless steel tray. Separate battery for generator, Delco 1151

or equivalent. Jump switch and isolator between generator battery and chassis batteries to permit charging from vehicle battery when vehicle is running and charging of vehicle batteries when genset is running shall also be provided. Kohler 30.0 kW with 60 HP or equal, with electronic governor capable of maintaining 60 Hz $\pm$ 0.1Hz at 120 V $\pm$ 1V and 100 amps for each of two (2) legs, generator power conditioner, and proper grounding. UPS system shall be installed for the TAGA and ashore service surge suppressor shall be installed on the shoreline reel. Generator controls shall be located near the electrical panel with monitor panel indicating digital readouts for voltage, frequency, and current. Pilot lights for alarms: high engine water temperature, overcrank, low oil pressure, and overspeed. Activation of any of the annunciators will result in engine shutdown. Generator temperature gauge shall be located in driver's area. 1000W block heater with controls on distribution panel is required for generator. Generator compartment is to extend a minimum of 6 inches on each side of the generator for servicing and removal, have foil-lined insulation, EAR or equal, lighted, hinge-up door with dual latches (to be flush against the body when open for easier maintenance access), a key lock and louvered to provide proper cooling of the generator. Sound deadening (interior sound intrusions must be kept to an absolute minimum. Auxiliary cooling to allow normal operation through a temperature range of -20 degrees F to 120 degrees F. Radiator discharge with plenum designed to prevent recirculation of hot exhaust into enclosure. Generator output protected by a triple ganged circuit breaker prior to the source selection switch. The fuel system is supplied from chassis fuel tank with 20% tank automatic cutoff, check valve in fuel feed and return lines, and a manual cutoff valve in each line. Main and remote "Start", "Stop" and "Preheat" Switches, failure alarm, and hourmeter. Critical muffler with exhaust vented to rear of vehicle. Genset OEM spring vibration isolators are required. Largest air cleaner available with restriction gauge. Drain access hole below floor to facilitate changing of oil (oil shall be diesel rated). Generator will be located on the right hand side of the vehicle as close to center as possible. Installation design subject to Government approval. Offering for (generator type):

Manufacturer's name: _____

Brand and/or model: _____

4.11 Hood - Labconco Fiberglass 28 Hood Model #28048 will be installed with a work surface Labconco Model #35850 and an Air Monitor Labconco Model #49850-03 or equivalents. The mobile laboratory must be equipped with a hood that is U.S. EPA approved, has the following dimensions: 28-1/8 inches x 25-9/32 inches x 45-3/4 inches, and provide 100 feet per minute linear face velocity. The hood shall be mounted as high as possible. Offering for (hood type):

Manufacturer's name: _____

Brand and/or model: _____

4.12 Through-the-bus fitting to allow air sampling ports in the side wall and roof and a resealable opening in the side wall. Design and placement subject to government approval.

4.13 Alarms/warnings - Fire and smoke detectors with external alarm. If the vehicle engine is started while the jacks are extended and/or the patron door is ajar, red warning lights shall flash on the vehicle instrument panel and a loud buzzer must sound. The buzzer

may be muted by a push button switch if the engine must be started, but the lights must continue to flash. An engraved placard stating the maximum overall height of the vehicle must be posted at the driver's position above the windshield. Back-up alarm shall automatically adjust to outside ambient noise levels.

4.14 Security alarm system - Automotive type security alarm system, Barco or equal, wired to protect entrance door and compartments on emergency egress windows. Motion detector shall be furnished. System activated by a hand-held push button key fob or button punch code. A small LED light installed near the entrance door shall light when the system is armed. Annunciator installed securely and located for effective sound projection. Smoke detector alarm system shall be furnished. Offering for (security alarm type):

Manufacturer's name: _____

Brand and/or model: _____

5.0 Inspection/Delivery/Acceptance

5.1 Four (4) site visit for (2) persons to visit fabrication facility during vehicles production to ensure all matters are properly addressed prior to delivery.

5.2 Delivery -To be made by vendor driver who will make any minor adjustments to the vehicle as well as explain complete operation of vehicle.

6.0 Acceptance

6.1 All items will be visually inspected to ensure completeness of order.

6.2 The vehicle will be road tested to ensure that performance is in compliance with specifications

6.3 The generator will be operated to ensure that performance is in compliance with specifications.

6.4 The supporting laboratory equipment will be operated to ensure that performance is in compliance with specifications.

6.5 Final test will be subject to technical acceptance by the user.

7.0 Warranty

7.1 Chassis and body structure - Five (5) year/100,000 mile limited warranty minimum.

7.2 Engine - Extended five (5) year warranty shall be provided/200,000 mi.

7.3 Transmission - Extended five (5) year warranty shall be provided.

7.4 Upfitting and conversion - Five (5) years/limited.

7.5 Generator(s)/Air Conditioner(s) - One (1) year as specified by manufacturer.

7.6 All other components as specified by the manufacturer - (Including copies of all manufacturer's written warranty policies.)

7.7 Truck chassis and drive train warranty service shall be available with a 50-mile radius of Las Vegas, NV.

8.0 Documentation Requirements:

8.1 Two sets of vehicle parts and operation manuals

8.2 Two sets of the generator and electronic controller parts and operation manuals

8.3 Two sets of the supporting laboratory equipment parts and operation manuals.

9.0 Training Requirements:

Once the vehicle is delivered and accepted, the vendor will be responsible for providing 16 hours of training for operators on the following topics at the U.S. EPA facility: (1) vehicle check-out, start-up, operation, and shut-down procedures, (2) generator check-out, start-up, operation, and shut-down procedures, and (3) supporting laboratory equipment operation.